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EDITORIAL DEPARTMENT NOTE

Becoming cost-minded is something almost every one has to learn at present. It has become for many almost a lost art due to the pressure of war on production rather than on cost. To many of the younger cost accountants, consciousness of costs is almost a newly-discovered phenomenon and one that must be learned painfully in the hard school of experience. One of the best ways to acquire this knowledge is through the study of budgets, since every figure contained therein can be traced and its effects on profits observed.

T. R. Elsman, a member of the Newark Chapter and the author of the first article, has performed a valuable service in bringing this topic to the attention of the membership at this time. Educated at Pace Institute, Mr. Elsman gained his early accounting experience with the Packard Motor Car Company of New York. For sixteen years, he has been with the Monroe Calculating Co., having risen to the position of Assistant Controller in charge of budgets, statistics, costs, and payroll.

The second article by Clair D. Weller emphasizes further the need for close scrutiny of the cost figures. The article deals with reports on manpower utilization as a means of checking and controlling labor efficiency. Here, too, much that was known before the war must be painfully relearned.

Mr. Weller has been employed in the Cost Division of R. G. LeTourneau, Inc., since 1940 and is at present Assistant to the Chief Cost Accountant. Prior to 1940 he spent some years in time study, cost accounting, and budgetary control work at the Warren Featherbone Company of Three Oaks, Michigan. He has been a member of the Association since 1938, and a member of the Peoria Chapter since 1940.

Articles published in the *Bulletin* present many different viewpoints. In publishing them the Association is not sponsoring the view expressed, but is endeavoring to provide for its members material which will be helpful and stimulating. Constructive comments are welcomed and will be published in the Forum Section of the *Bulletin*.

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APRIL 15, 1946

PROFIT-ACTION FIGURES

By T. R. Elsman, Assistant Controller,
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WHETHER we realize it or not, most of us are guessing about the future. In our personal lives practically every important action we take is predicated on our estimate of future possibilities. An estimate of the future was made when we accepted our present jobs. It is present in our choice of friends, in the associations we join, and in the homes we acquire. In business our estimate of the future affects, and to a large degree controls, our current decisions relative to the design of our products, the size and layout of our plant, the size and type of our sales outlets, the systems we adopt, the type of people we hire, and practically all of the other decisions made. We like to call this "future planning," but if it is not supported by figures, much of it is guessing, and rough guessing at best.

The Budgeting Principle and Budgetary Control

The budgeting principle is inherent in all future planning. Budgeting has been defined as that which has to do with the techniques followed in preparing estimates of the future. These estimates, to be effectively used, must be expressed in figures. A writer in one of the *N. A. C. A. Bulletins* quotes Lord Kelvin as saying:

> When you can measure what you are speaking about and express it in figures, you know something about it, but when you cannot measure it nor express it in figures, your knowledge is of a meager and unsatisfactory kind.

If the techniques followed in your estimating are effective, they will develop figures which are approximately correct. This will change your rough guesses into at least informed guesses, and the guesses you make on the different activities of the business can then be coordinated to a degree which will justify calling the procedure "future planning." If you then think it is practical, you can set up a budget and establish budgetary control. Budgetary control is the executive aspect of budgeting, that is, the profitable action taken on the estimates developed by budgeting.

Whether a budget is developed from the various estimates prepared is a question each company must decide for itself. But certainly no company employing more than one person can safely get along without the essential profit-action figures which can be brought to light by budgeting techniques. These figures are not available in conventional accounting records. Most of the figures referred to in the following discussion are available or at least can be obtained from an adequate cost system, which does not mean an elaborate system. It means one which can simply summarize all the profit-making possibilities of the business on two or three pieces of paper.

Practicability of Budget

Before we discuss the figures needed for effective profit-action and seek to determine whether or not budgeting is a practical idea for your business, let us consider what we obtain from the conventional profit and loss statement. I should like to quote an authority on this subject because he points out its limitations so clearly.[1]

> The outstanding defect of the conventional profit and loss statement is that it shows only one side of the picture. It reports profits made but does not show profits lost, namely, those potential profits which did not materialize owing to failure on the part of the organization to take full advantage of their profit opportunities. There is probably not a manufacturer in fifty who has any definite idea of what his profit would be if he took full advantage of the opportunities presented.

I think we all agree with his contentions that the average profit and loss statement is of little or no aid to profit making. Will budgeting do the trick? Maybe it will. It has helped in many companies, but budgeting is not a ready-made device for your company and mine. On the contrary, it must be custom-made for each business. Many books have been written, hundreds of speeches delivered, and hundreds of articles published on budgeting. There have been more *N. A. C. A. Bulletins* published on that subject

[1] G. Charter Harrison, *The Hand of John Gough*, (Madison, Wisconsin, 1941).

than on any other. The opinions of writers vary considerably. Thus, Edmond LaRose[2] states that his company budgets all of its activities one year in advance and meets this budget within 1 or 2 per cent. On the other hand, G. Charter Harrison[3] states that anyone who can see six months ahead what general business conditions will be and their effect on sales volume can easily make a fortune for himself on the market and would be wasting his time supervising budgets. There are others who state that we are not yet at a point where we can determine whether or not a budget is a practical tool for each individual business or all activities of the business.

I firmly believe that some activities of every business can be budgeted effectively. Whether we are using budgets or not, however, we should certainly use all of the means at our command to produce figures which can be used for making profits. It is still necessary to make the most of our profit opportunities, budget or no budget, and if we decide the budget is a practical tool for our business, a large portion of our groundwork will be laid. Thus, if we are producing a diversified line of products and wish to show the top executives of our organization figures which point out opportunities for increasing the company's profit, we need, first of all, a good cost system. The cost accountant with initiative and an adequate cost system is the accountant with the real opportunities to make substantial contributions to the company's profits in addition to preparing reports which show the accomplishments of others in this respect.

Maximizing Profits

We can increase our profits in several ways:

1. Price increases.
2. Cost reduction.
3. Increase in production and sales volume of all products.
4. Increase in production and sales of the most profitable products and development of the most profitable outlets.
5. Dropping unprofitable products and unprofitable sales outlets.

[2] Edmond LaRose, "Budgeting and Controlling Postwar Operations," *Anniversary Papers*, National Association of Cost Accountants.

[3] G. Charter Harrison, "A Streamlined Budget Plan," *Two Articles on Today's Problems* (Madison, Wisconsin, 1942).

Price Increases

It is obvious that OPA will exercise some control over prices for some time. When OPA ceilings are finally lifted, competition will hold prices down; consequently, there is little likelihood of improving profit positions from this angle.

Cost Reduction

The cost accountant's contribution to cost reduction is well known and recognized, particularly in connection with manufacturing costs. The factory management in well-organized factories knows the cost accountant and his contributions. It is extremely important in the period just ahead that the sales management also gets to know him.

If the cost accountant is in a well-organized factory and his cost system is adequate for cost control purposes, his principal contribution to the factory executives during this period will be in the assistance he can give in establishing new postwar efficiency standards and in seeing to it that costs are held down to these standards. Most of this work for the period just ahead should be turned over to his assistant while he himself devotes his time to compiling profit-action figures for the top executives, particularly the sales executive. If we are going to have future planning for profits, we need figures for the plans and more figures for action on the plans.

Increases in Production and Sales Volume, Profitable and Unprofitable Products

It is quite apparent that no ordinary cost reduction program can offset the increase in costs brought about during the war. Labor will not only fight to hold the gains made in the war years, but will also fight for and obtain additional increases. With little possibility for increases in price, effort must be concentrated in one direction if we are ever to regain and improve our prewar profit position. We must intensify our selling effort to increase sales and production volume. Advertising and sales promotional activities must be concentrated on the profitable products in the most profitable sales outlets. Unprofitable products must be redesigned, or if they represent an insignificant part of the over-all business, they should be discontinued.

Information Needed

Conventional accounting does not produce profit-action figures. Many sales executives do not know what figures they need from accounting, and many accountants know only vaguely what the sales executive wants from them. The cost accountant stands in the best position to correct this unfortunate situation. His training fits him for the job of preparing and interpreting the profit-action figures needed right now. He is skilled in figure analysis and synthesis, the breaking-down and building-up process. Among the figures urgently needed at this time are:

1. Figures to express productive capacity.
2. Figures which will supply a common index for measuring production, sales, and inventory balances.
3. Figures on sales trends and normal sales.
4. Figures which will show both fixed and variable expenses.
5. Figures which show profit or loss at various levels of sales volume, first based on a normal mix of sales and, second, based on several other preferred sales mixes.
6. Figures on the profit contribution of each class and model of product.
7. Figures which show the profit return on each hour of productive labor by class of product.

Productive Capacity

In most American industries, the capacity to produce is in excess of the normal demand for the product. Considerable excess capacity is required in any business with violent fluctuations in sales volume. However, each individual business should know its own maximum productive capacity. Very often this is determined by a bottleneck operation. In our company, it is limited to the number of skilled assemblers and inspectors whom we have trained and who are available. Many of these employees require several years of specialized training. We have an almost unlimited capacity to produce the individual parts for our products because we can subcontract their manufacture if our own facilities are used up to the maximum. Our normal capacity, therefore, is based on the number of skilled assemblers and inspectors we employ on a 40-hour week basis. Our maximum capacity is more than 50 per

cent higher than our normal, inasmuch as we can increase hours beyond 40 per week; furthermore, we keep a sizable number of employees in training on our assembly and inspection methods.

We state our productive capacity in two ways so that the information can be used effectively in current estimates. The first of these is expressed in the number of standard hours available annually for each type of product. For instance, 1,000,000 standard hours are available for product A, 500,000 for product B, and 250,000 for product G, etc. The second and most effective method for expressing productive capacity is in terms of standard units.

Standard Units

When a diversified line of products is manufactured and there is a wide variation in the amount of productive labor necessary in the manufacture of each, a standard unit of measure is essential for expressing productive capacity and for comparing production, sales, and inventory balances. If this is not done, and production, sales, and inventory balances are compared in terms of units or dollars, a further interpretation of the figures must be made if there has been any change in the mix of products produced and sold. The standard unit of measure may be a fixed number of hours, points, or any other unit of measure adequate for the purpose.

An easy way to establish a standard unit of measure is to select one basic model of product for the standard unit. For illustration, we will call this Model X. We find it takes 50 standard production hours to produce Model X. The next step is to establish an equivalent in standard units for all of the other models of product as follows:

Model	*Standard Hours Per Unit*	*Equivolent in Standard Units*
X	50	1.
A	40	.8
B	75	1.5
C	100	2.
D	150	3.

We are now in a position to express our productive capacity in

terms of standard units and to compare production, sales, and inventory balances on the same basis regardless of whether the mix of models produced and sold is comparable or not.

Productive capacity in terms of standard units is expressed as follows:

1. Normal standard hours available (quarterly) 600,000
2. Standard unit, Model X = 50 standard hours
3. Normal standard unit production available 12,000
   (Line 1 divided by line 2.)

This enables us to express normal productive capacity available by models as follows:

Model	*Equivalent in Standard Units*	*Maximum Unit Production at Normal Capacity (600,000 Hours)*
X	1.	12,000
A	.8	15,000
B	1.5	8,000
C	2.	6,000
D	3.	4,000

From the foregoing example it can readily be seen that if we utilize all of the normal productive capacity available to produce Model X, we can produce 12,000 units; if used on Model C, we can produce only 6,000 units. Knowing the equivalent in standard units for all models and the normal capacity of the plant in terms of standard units, we can easily determine the number of units of each model which we have the capacity to produce for any mix of sales.

As quarterly sales requirements are prepared for the manufacturing division, they contain a considerable mix of major classes of products and models of product; however, by extending all of the models on the schedule at their equivalent standard unit value, we know in a few minutes whether we are going up or down in our productive activity during the next quarter by comparing our forecasted production in terms of standard units with our current rate of production in terms of standard units. This is illustrated as follows:

Model	Forecasted Production Next Quarter		Current Quarterly Production	
	Quantity	Std. Units	Quantity	Std. Units
X	1,500	1,500	2,000	2,000
A	1,000	800	1,500	1,200
B	1,500	2,250	1,500	2,250
C	1,500	3,000	1,000	2,000
D	1,500	4,500	1,000	3,000
	7,000	12,050	7,000	10,450

Note that the quantity of units scheduled for the next quarter is the same as the current quarterly production, a total of 7,000 units. Still, a substantial increase in productive activity will be required in the next quarter. This increase will be noted in comparing the number of standard units required in each period. In the current quarter we are producing 10,450 standard units. In the forthcoming quarter, 12,050 standard units are required, an increase of 1,600. A standard unit represents 50 standard hours; consequently, an increase of 1,600 standard units represents 80,000 standard hours (1,600 × 50 hours).

The factory manager knows five minutes after the quarterly sales schedule is submitted what effect it will have on his organization. It is determined at this time whether it is possible for the manufacturing division to meet the sales requirements and, if so, how are they to be met; that is, how much additional personnel, overtime, material requirements, etc., will be necessary. The sales department will receive an answer the same day it submits the forecasted requirements.

Comparison of Production, Sales, and Inventory

Using the standard unit, we can also compare production, sales, and inventory much more effectively than can be accomplished by using cost, sales price, or number of units.

In the illustration on the top of the following page, we opened the period with 7,000 units of finished product; we produced 7,000 units and sold 7,000 units, leaving a closing inventory of

Model	Opening Inventory		Production		Sales		Closing Inventory	
	Units	Std. Units	Units	Std. Units	Units	Std. Units	Units	Std. Units
X	3,000	3,000	2,000	2,000	3,000	3,000	2,000	2,000
A	1,000	800	1,000	800	1,000	800	1,000	800
B	1,000	1,500	2,000	3,000	1,500	2,250	1,500	2,250
C	1,400	2,800	1,000	2,000	1,000	2,000	1,400	2,800
D	600	1,800	1,000	3,000	500	1,500	1,100	3,300
	7,000	9,900	7,000	10,800	7,000	9,550	7,000	11,150

7,000 units. However, when we look at the situation in terms of standard units we quickly discover that sales are running behind production; and the increase in inventory between the opening and closing of the period is 1,250 standard units. This increase of 1,250 standard units represents 62,500 production hours. This condition may or may not be satisfactory, depending upon a number of other factors. Nevertheless the condition has been brought to light in an effective manner, and remedial action can be taken if necessary.

In manufacturing we purchase raw material and convert it into a usable product. We are selling principally our costs of conversion. In the illustration, it can readily be seen that the costs of conversion in one period are being carried forward for sale in a subsequent period. If we know the approximate hourly cost of operating the plant, we can easily determine the value of the conversion costs being carried forward. For instance, in this example the increase in inventory was 62,500 production hours. If the approximate hourly cost of operating the plant was $3 per hour, the conversion costs to be recovered in a subsequent period are $187,500 (62,500 hours × $3).

The standard unit can also be used very effectively as a device for inventory control, both as to investment and turnover.

Sales Trends—Normal Sales

If we would really have our figures persuade the boss to take full advantage of his profit-making opportunities, we must also estimate our normal sales and project the figures several years ahead. Everything else we do in connection with profit-action figures hinges on these normals. The costing rates used for inventory valuation and for establishing prices should be based on sales normals. For determining the size and layout of the plant,

the investment in machinery and equipment, the number of people hired, and for practically every important decision that must be made, it is necessary to know the normal sales and the normal trend of these sales.

A study of sales over a period of time should enable us to estimate normal sales and the trend in these sales. In most businesses, there is a growth trend. In our own case, most of our normals have been estimated by taking the sales figures for a number of years. After adjusting these figures for extraordinary situations, we simply plotted them on a piece of graph paper and, by drawing a straight line through the points, we eliminated the effect of the peaks and valleys caused by cyclical fluctuations. On these charts we can project normal sales many years ahead.

If the business is in an expanding industry, a growth trend in sales becomes imperative. If the growth trend on any or all products is unsatisfactory, further analysis of sales may be made by types of users, large, small, industrial, retail, government, etc. In this way we find out where we are slipping and why. Is it due to lack of sales effort or is it due to a lack of engineering activity in replacing obsolete products with new ones? In short, give top executives this kind of information and point out the action required. This is what is meant by profit-action figures.

Once normal sales dollars for each major class of product are established, the next step is to break down the figure into the different quantities and models of products represented by the dollar volume. This will represent the normal mix of models of product and will be the basis of the production normals used in establishing the costing rates.

Fixed and Variable Expense

In considering the characteristics of expenses, we find there are three kinds, fixed, semi-variable, and variable. A study of expenses for a period of time makes their classification possible without any trouble. The fixed expenses are easily identified. They do not move up or down with volume changes to any appreciable extent. The variable expenses also are easily identified because they move up and down almost in direct ratio to the fluctuation in volume. All others are semi-variables. They move up and down

with changes in volume but not in proportion to it. There is a fixed and a variable element of expense in a semi-variable.

To ascertain the amount of fixed and variable expenses, it is preferable to analyze each class of expense individually; however, if time is not available, a quick and approximate determination can be made on an over-all basis. This is done by taking total dollars and total costs in a period of high sales volume and also in a period of low sales volume, and finding the difference in sales between the two periods and the difference in costs between the two periods. With these figures, we can approximate the variable expense rate, the fixed expense, and the break-even point. This is illustrated in the following:

Activity	*Sales*	*Costs*
High	$12,000,000	$9,840,000
Low	6,000,000	5,640,000
Difference	$6,000,000	$4,200,000

Variable cost per dollar of sales = $4,200,000 ÷ $6,000,000 = $.70.

Fixed cost at any volume = [$9,840,000 — ($12,000,000 × $.70)] = $1,440,000.

Break-even point in sales = $1,440,000 ÷ .30 = $4,800,000.

In this example marginal income is 30 per cent of the sales dollar. In other words, a profit of 30 per cent is realized on all sales above the break-even point of $4,800,000. This is the profit realization when the normal mix of products is sold. If we are able to change this mix to include a higher percentage of the most profitable products, we thereby increase profits.

Another use to which figures based on cost behavior may be put is to compute the increase in sales required in the postwar period to maintain the company's prewar profit position. The basis of these figures should be postwar basis. If prewar figures are available on fixed and variable costs, comparison may be made of prewar and postwar profits, the increase in fixed costs, the variable cost rate, and the break-even point. The procedure may be illustrated as follows:

		1940	*1946*
Sales		$8,000,000	
Fixed expense		$1,800,000	$2,200,000
Variable expense rate		60%	65%
Marginal income rate		40%	35%
Increase in cost, 1940 to 1946			
Fixed	$400,000		
Variable	400,000	($8,000,000 × .05)	
Total	$800,000		

The increase in sales required to equal the amount of prewar profits is:

Increase in cost ($800,000) ÷ Marginal income rate (.35) = $2,285,000.

Profit or Loss at Various Levels of Sales Activity

Having obtained figures on normal and maximum capacity to produce, normal sales volume, the trend in sales, and fixed and variable costs, we are in a position to produce additional figures and estimates which result in profit action. The information, which can now be put on a few pieces of letter-size paper, will do more to show the sales executive how to improve the company's profit position than a ton of other types of statements.

The first thing to do is to prepare a schedule or chart showing profit or loss at different levels of sales volume with the normal mix of products. Other schedules should be prepared showing how the profit position can be improved by more selective selling, that is, by selling a larger percentage of the most profitable products.

If in our study of fixed and variable expenses, we find that our margin of profit is 30 or 40 per cent after paying fixed expenses, it is our duty to let the sales executive know. He might be looking at last month's statement which shows him that he is making a 15 per cent profit on a certain product. He feels that if he could increase his sales of the product, he could realize 15 per cent profit on all of the additional business. Actually if the increase in sales contemplated is above the break-even point, a much higher rate

of profit will result beccause there are no fixed charges to apply against these sales. Oftentimes it is possible to show our sales executive how he can increase his direct selling costs as an incentive to the salesman to get this additional business and at the same time increase the profits of the business.

Usually for any substantial increase in sales volume above normal, an increased percentage can be safely and profitably spent on selling. This is undoubtedly the easiest way for almost any business to improve its position in the industry. All of this information can be shown in the figures on a schedule showing profit and loss at different levels of sales volume.

It might also be enlightening to see a comparative schedule of profit and loss at different levels of sales volume for both the prewar period and the postwar period. From this we can easily show the increase in sales volume required at least to equal our prewar profit position and the increase required to improve it. The following schedule shows profit and loss at any volume for prewar and postwar years.

Product A

	1940 *Normal*	1946 *Normal*
Fixed expense	$1,800,000	$2,200,000
Variable expense rate	60%	65%
Break-even point	$4,500,000	$6,285,000

Net Profit or Loss

	1940 Normal		*1946 Normal*	
Net Sales	*Before Tax*	*After Tax*	*Before Tax*	*After Tax*
0	—$1,800,000		—$2,200,000	
$ 2,000,000	— 1,000,000		— 1,500,000	
4,000,000	— 200,000		— 800,000	
6,000,000	+ 600,000	+$ 480,000	— 100,000	
* 8,000,000	+ 1,400,000	+ 1,120,000	+ 600,000	+$ 372,000
** 10,000,000	+ 2,200,000	+ 1,760,000	+ 1,300,000	+ 806,000
12,000,000	+ 3,000,000	+ 2,400,000	+ 2,000,000	+ 1,240,000

* Normal Sales 1940.
** Normal Sales 1946.

Profit Contribution of Each Model of Product

Next a study should be made of the profit or loss contributions of each class and model of product to total profit. These figures

should be summarized on a schedule or chart. This information will show the sales executive where to direct his advertising and sales promotion. It will show up the unprofitable items, which must either be redesigned or dropped from the line unless a considerable expansion in sales can be obtained for them. The summary will also point out the low profit items on which discounts should not be granted. It will show the effect on profit of an expansion in sales of one product at the expense of another, or the increase in sales required on an unprofitable item to get it into a profitable position. In short figures of this kind show the profit opportunities in selective selling.

When apportioning costs to each product for the purpose of determining the profit contribution of each product, the conventional classification of costs among manufacturing, administrative, and selling is inadequate. A study of all costs will have to be made to determine which are to be apportioned on the basis of (1) the productive hours expended in the production of the products, (2) the number of units produced or sold, and (3) the sales dollars.

This is illustrated as follows:

Product B		
Normal sales	$6,000,000	
Normal production hours		$1,000,000
Normal number of units		25,000

Costs apportioned to sales dollar, $2,400,000 = 40% of each dollar
Costs apportioned to production hours, $2,500,000 = $2.50 per hour
Costs apportioned to units, $500,000 = $20.00 per unit

			Costs Apportioned On			
Model	*Prod. Hours*	*Sales Value*	*Hours*	*Sales Dollar*	*Unit*	*Net Profit Per Unit*
W	80	$433	200	$173	$20	$40
X	50	250	125	100	20	5
Y	42	275	105	110	20	40
Z	30	178	75	71	20	12

Profit Return on Each Hour of Productive Labor

Next prepare another schedule, and this one is by far the most important one, which shows the profit realized on each hour of

labor expended in the production of each model of product. We are confronted with an over-all productive capacity of a limited number of production hours to produce all products. The largest possible portion of this capacity which can be utilized on the production of products to yield the best profit return on the hour of productive labor will also yield the best over-all profit.

The following schedule is used for illustration:

Model	*Prod. Hours*	*Net Profit Per Unit*	*Net Profit Per Prod. Hour*
W	80	$40	$.50
X	50	5	.10
Y	42	40	.95
Z	30	12	.40

In this illustration we realize a unit profit of $40 on product W which requires 80 production hours in its manufacture. On this product we are getting a profit return of $.50 on each hour of productive labor. On product Y we are realizing the same unit profit of $40, but the profit return on the hour of productive labor expended in its manufacture is $.95 per hour or almost double the rate on W. With figures of this kind, the section to be taken to increase profits is obvious. The sales promotion and advertising should be diverted to the products which give us the best profit return on the productive effort.

Many sales executives have not taken advantage of their profit opportunities because they never had the figures which make it possible for them to do so. A sales executive and a cost accountant working as a team can run rings around their competitors who do not have a similar setup. In a recent issue of *The Journal of Accountancy,* Past President Victor H. Stempf said:

> The most urgent injunction to accountants today should be to refresh and extend their knowledge of the modern accounting techniques concerning standards and budgets. The plans of management are primitive, vulnerable, inadequate, and dangerous unless implemented by these invaluable tools.

Conclusion

I agree with Mr. Stempf and in concluding this paper on profit-

action figures, which if followed will show the way to profit opportunities in business, let me say that none of these figures need be actual cost figures. The best product cost ever developed was nothing more than a good approximation of cost. The figures referred to are no exception; they are merely a good approximation of cost and profits. They do, however, take the rough guessing out of estimating.

In America we are doing business in a competitive economy. It is the American system. It is the profit system. This system is deeply entrenched in the minds of most of us along with our beliefs in the other freedoms enjoyed under the American system. In our type of economy, each business must look out for itself. Competition is not only among different companies in the industry, but also among industries themselves. The companies which survive and make progress in a free enterprise system are those that cash is on their profit-making opportunities.

Any company making a diversified line of products must have a good cost system, and any cost accountant with a good cost system who is not producing profit-action figures is failing his company.

I have discussed only a few of the opportunities for the cost accountant. He cannot, of course, force the other executives of the business to take advantage of the profit opportunities, but he certainly can direct their attention to the most obvious courses of action and show the profits lost by not taking advantage of the opportunities available.

Exhibits of Accounting Equipment at Annual Conference June 17, 18, and 19

For the first time since 1942 an exhibit of accounting machines and equipment will be held in conjunction with the Annual Conference. Already most of the machine companies who have exhibited in previous years have reserved space. While it will be impossible for some companies to show their projected postwar models, the exhibit will include latest types of equipment. More particularly, the companies will be ready to demonstrate and explain new methods and new applications of their equipment which have been developed during the war period. As in other years, these exhibits will be of substantial educational value to members.

REPORTS ON UTILIZATION OF MANPOWER

By Clair D. Weller, Assistant to Chief Cost Accountant, R. G. LeTourneau, Inc., Peoria, Ill.

IN these days when much reference is being made to obtaining maximum production from each hour of work, proper utilization of the potential manpower effort, physical and mental, is of greatest importance. Up-to-date reports designed to point out existing conditions by location, that is, individual workman, department, and type of expense involved, can be very effective tools in securing maximum accomplishment from the effort expended. The following presentation deals briefly with some of the elements of manpower utilization and explains how these elements are reflected in two types of reports currently used in the Peoria plant.

R. G. LeTourneau, Inc., are manufacturers of heavy earthmoving equipment, such as Tournapulls, scrapers, and dozers. The basic raw material is steel, and our manufacturing operations include cutting, heat treating, machining, welding or fabricating, assembly, and cleaning and painting. There are between 2,000 and 3,000 workmen employed at the Peoria plant. My comments and illustrations are based on experience gained in this manufacturing industry.

Elements of Utilization

A few years ago, the responsibility for increasing speed and production was frequently placed in the worker's lap with the main emphasis on increased speed to accomplish increased output. Mary Jones' production record, which showed that she had produced fifty pieces per hour, was used as a basis for setting a piecework standard, requiring Mary and all the other workers on that operation to produce fifty-five or sixty pieces per hour. So far as my information obtains, this type of practice is rapidly becoming obsolete in favor of standards which are accurately set through time and motion studies, and which place the emphasis on balanced movements, elimination of waste effort through the use of proper work methods and motions, and elimination of the various factors which result in scrap. Without detracting from the fact that an employer has every reason to expect an employee to apply himself

at a reasonable rate of accomplishment, I believe I am correct in stating that the full utilization of manpower is, for the greater part, dependent on:

1. Getting the right man on the job.
2. Maintaining health and high morale among the workers.
3. Proper organization of all factors which contribute to the output of an operator.
4. Instruction of the operator in the most efficient method for performing the assignment.
5. Location of the causes for scrap. It is assumed that once the existence and cause for scrap is determined, the necessary steps will be taken to eliminate it.

While it is desirable for the purposes of this paper to highlight those items involving the use of cost data and reports, it is also necessary to consider briefly the entire field in order to place all factors involved in their proper relationship.

Getting the Right Man on the Job

An extensive testing and selection process is maintained in our personnel department to obtain proper placement of each employee on a job for which he is adapted and on which he is capable of making progress. These tests reflect general intelligence, personality, and special skills and are much more revealing than a personal interview can be without the help of the tests. In addition to these tests, there is obtained a confidential reference report, which is valuable in determining stability, dependability, education, and experience. We believe it is as important to the worker as it is to the employer that he gets into the type of job for which he is qualified, in which he will be happy, and where he will be able to advance.

Maintaining the Health and Morale of Workers

Because physical condition is so important in maintaining a worker's rate of output, we have first aid stations where trained nurses can administer to those having minor ailments, such as, headaches, sore throats, colds, and in more serious cases can advise an employee to leave his work and seek proper medical care.

This, of course, tends to reduce the amount of time off due to illness. In 1944 the first aid stations at our Peoria plant had 26,040 nonoccupational calls made up largely of the items mentioned above or of similar nature, as compared to only 15,732 occupational calls.

Our employees' activities association does much for the general morale of employees by sponsoring a band, mixed choral group, and numerous athletic activities. However, possibly the most important element in maintaining morale among all employees is to maintain the proper relationship between the employee and his foreman or supervisor. If this relationship is not what it ought to be, the employee involved is certainly going to lose interest, is apt to become careless, and his output is almost certain to decline. Extensive supervisory training courses are given all foremen and supervisors in our organization to aid them in fulfilling their responsibilities and in maintaining the full interest of those whom they supervise.

Organization of Work

Frequently two operators are working on the same work who have had experience of equal value. Both are conscientiously endeavoring to turn out a good day's work, yet one may accomplish considerably more than the other in final output. Frequently, the answer is in the organization of the work. The cause may be work arrangement, working position, type of tools used, lighting conditions, or similar items, some of which are not controllable by the workman. By observation of other operators and application of their technique, the worker may be able to effect some improvement, but, in any case, it is the foreman's responsibility to aid the workman in correcting the condition. Whatever may be the element of organization that is lacking, until it is corrected, the operator's time will not be fully utilized.

Instructing the Operator

In addition to a training school, we have both procedure and methods men who are responsible for determining the proper work methods to be used, the proper procedure to be followed, and the proper tools to be used. Our foremen are given considerable training in methods of job instruction. Complete instruction

is important not only to get maximum utilization, but also because a worker's progress and general attitude toward his work and his foreman are dependent on the type of instruction he receives.

Location of the Causes for Scrap

Whenever a part is scrapped, all operations previously performed are wasted. Some of the causes for scrap are materials which do not come up to specifications, defective tools, or machines which will not hold to the required tolerances. Location of the cause for scrap is extremely important in securing full utilization of manpower.

The problem of summarizing and pointing out existing conditions to those who are interested and able to make the best use of this information has led to the development and use of two reports. The standard posting sheet (Exhibit 1) is used to convey information to workmen and all members of the plant supervisory staff. The performance report (Exhibit 2) is issued to the supervisory staff only.

For several years our company has maintained an extensive standards system covering virtually all direct labor workmen as well as numerous groups of indirect labor workmen. Both reports used are keyed to this standards system. A bonus is paid in accordance with the accomplishment of the workman as determined through the use of carefully time-studied standards. Wherever such a plan is in use, the workman is vitally interested in having his time accomplish the maximum possible, since his earnings are increased in accordance with the accomplishment.

Standard Posting Sheet

One department of the cost division is responsible for obtaining all labor reports from the plants, for applying the proper standard values to the work reported, and for summarizing and assembling this information into the necessary form for payroll and costing purposes. The standards posting sheet is the report on which the production information and premium earned are reported back to the shop and also to the payroll department. This is a daily and weekly summary and is sent to the shop each day. There is one standard posting sheet for each shift in each department, and these are posted in their respective departments where everyone

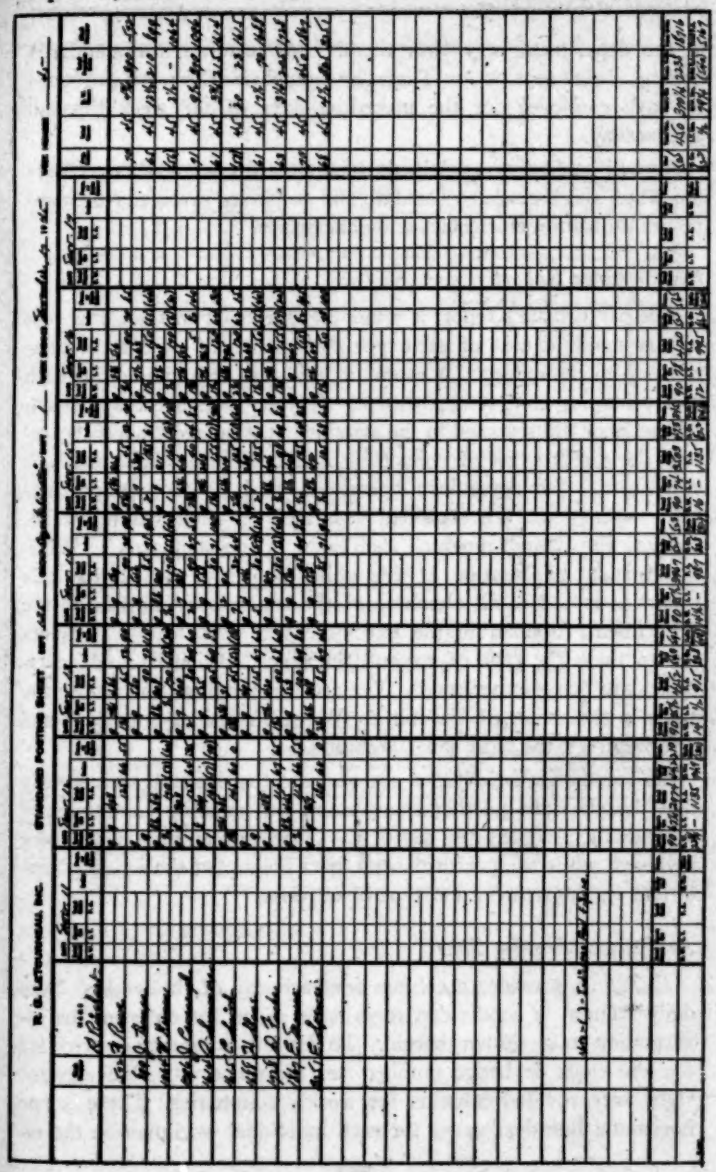

EXHIBIT 1

in the department may view them. For instance, the standards posting sheets sent out on Thursday summarize the work produced by each employee for the preceding days of the week through Wednesday.

As will be further explained, the standard posting sheet reflects the when and the where (or date and employee involved) of manpower utilization efficiencies and deficiencies.

Performance Report

The performance report is a monthly summary of the actual cost versus standard cost of each type of department expense in relationship to the output. A report of this type is prepared for each cost center or control department. Output units are that portion of the labor units posted to the standard posting sheet which represent the direct work of converting materials into salable parts or equipment. Supplementary operations, such as reoperation, machine setup, etc., are classified separately in their respective accounts even though much of such labor is "on standards." Without further explanation at this point, suffice it to say that this report is issued to all members of the supervisory staff from the department foreman to the executive vice president, and points out to them the type of expense in which efficiencies and deficiencies are being experienced. The account numbers and names are show in the center of Exhibit 2. We will consider only Accounts 1 through 13, the basic labor accounts.

To summarize briefly the use of these two reports, we may say that the standard posting sheet points out existing conditions by individuals, involved, the day or days involved, and the department involved, while the performance report points out the existing conditions by department and type of expense.

Analysis of Posting Sheet

Exhibit 1 provides a column for each day of the week Each daily column is subdivided to provide space for entering the information to be shown therein. To the left, columns are provided for the clock or badge number and the name. On the extreme right are provided columns for weekly summaries. There is one horizontal line designated for each individual workman on the re-

PERFORMANCE REPORT

Month of To

Dept.

CURRENT MONTH Total	$ Per 100 Units Act'l	$ Per 100 Units Std.	Over or Under	ACCOUNT	YEAR TO DATE Total	$ Per 100 Units Act'l	$ Per 100 Units Std.	Over or Under
	87			% On				
	59			Net Index				
207,980				Output Units	1,981,801			
				DIRECT LABOR				
$ 3,686	1.77	1.62	(.15)	1-Productive Labor	$ 34,828	1.76		
42	.02	.01	(.01)	2-Preparation	461	.02		
283	.14	.11	(.03)	3-Set Up	2,270	.12		
50	.02	.02	-	4-Bad Fix	776	.04		
59	.03	.03	-	5-Clean Up	615	.03		
111	.09	.08	.01	6-Job Credit	1,064	.05		
14	.01	.01	-	7-Lost Time	380	.02		
-	-	-	-	8-Alternate Methods	-	-		
691	.33	.35	.02	9-Process Allowance	7,240	.37		
41	.02	.01	(.01)	10-Below Standards	408	.02		
$ 1,291	.62	.60	(.02)	TOTAL - ACCOUNTS 2-10	$ 13,214	.67		
				OVERHEAD EXPENSES				
529	.24	.23	(.01)	11-Supervision	4,772	.23		
76	.03	.01	(.02)	13-Indirect Labor	334	.02		
-	-	-	-	30-Supplies	50	-		
46	.02	.02	-	31-Tools & Jigs	465	.02		
677	.32	.23	(.09)	32-Weld Rod	5,436	.27		
6	.01	-	(.01)	34-Gas, Oil & Grease	66	-		
-	-	-	-	35-Paint	-	-		
418	.20	.20	-	50-Repairs & Maint.	3,411	.17		
17	.01	.01	-	59-Miscellaneous	96	.01		
(51)	-	-	-	Control O. H. Absorbed	(401)	-		
$ 1,718	.83	.70	(.13)	TOTAL CONTROL OVERHEAD	$ 14,229	.72		
$ 6,695	3.22	2.92	(.30)	TOTAL CONTROL COST	$ 62,271	3.15		
$ 356	.17			OVERTIME PREMIUM (5)	$ 5,049	.25		
5,140				Total Hours Worked	47,006			
19				Hours Over ___ hrs	774			
0.4				% Over ___ Hours	1.6			

Comments

Note: ( ) indicates red figure

EXHIBIT 2

spective shift involved. Daily shift summaries appear at the bottom of the daily column, and a weekly summary of the shift operation is shown in the lower right-hand corner of the sheet.

Analysis of the accomplishment by individuals is done by reference to the accomplishment index as shown in the "Index" column. Analysis of the shift operation is done by reference to the "Daily Net" and "% On" which appear in this same column at the bottom of the sheet. A brief explanation of these and other pertinent standard posting sheet figures may be helpful.

Exhibit 3 shows three blocks from the posting sheet covering the calculations for two workers for November 13, the total of the sheet for the day, and the totals for the two workers for the week.

	Date Nov. 13				
Name	Total Hours	Hours On	Total Units	Index	Prem. or Units Below
	D.W.	L.T.	P.A.		
Y. Rose	9	7 3/4	486	72	90
	1 1/4		65		
J. Thomas	9	9	580	72	110
			70		

Avg. Index	Total Hours	D.W. Hours	Total Prem. Units	Clock Number
70	45	43/4	390	572
65	45	12 1/2	210	899

Total Hours	Hours On	Total Units	Daily Net	Prem.
90	75 1/2	4152	54.9	595
D.W.	L.T.	P.A.	% On	Units Below
14	1/2	915	83.8	(45)

EXHIBIT 3

The "Total Hours," "Hours On," "D. W." (Day Work), and "L. T." (Lost Time) as they appear in the daily individual postings are posted from a summary labor report made out in the factory by dispatchers, approved by the foremen, and delivered to the office each day. "Total Hours" must agree with those approved by the foreman for attendance, as shown on a separate payroll clock card. "Hours On" are that portion of the "Total Hours" during which the operator has worked on jobs for which time-study stand-

ards have been set and which will be paid for as incentive labor. Time required to perform work for which no standards have been set is designated as "Day Work" and is paid for at the hourly base rate. "Lost Time" is time paid for during which no work was performed, such as, waiting for a crane or for a machine to be repaired. Day work and lost time do not enter into the computation of the "Index" or "Premium Units."

"Total Units" are the sum of the standard time values for work performed by an operator during his hours on standards. A detailed report to the cost division of operations and quantities completed is made out in the plant for each operator each day and is used to determine what standard time values apply and to accumulate the "Total Units" of work performed during the hours on standards.

"P. A.," or process allowance, is a varying quantity of units allowed each operator working on standards for interferences or unbalanced group conditions which adversely affect his rate of production. When the rate of production reaches 80 standard time units per "Hour On," unfavorable conditions are considered nonexistent and no "P. A." is allowed. A graduating amount of process allowance is allowed as the rate of production decreases below 80. In the type of work shown in Exhibit 1, the process allowance increases until the rate of production reaches 40 standard time units or below, when a maximum of 20 process allowance units are given per "Hour On." When the rate of production exceeds 80 units per "Hour On," process allowance becomes negative to discourage excessive speed which may result in physical hazards or poor quality workmanship.

The "Index," or accomplishment index as we refer to it, is the number of minutes per "Hour On" which an individual has earned and for which he is to be paid, including standard units earned and "P. A." units allowed. Thus, the index is obtained by dividing the sum of the "Total Units" plus "P. A.," by the "Hours On." A 60 index is considered base since at this point an operator is earning 60 minutes of pay per hour, for which he is compensated by his hourly base rate. An index above 60 indicates premium has been earned, and the number of minutes above 60, multiplied by the "Hours On" will yield the "Premium Units" for the day. "Premium Units" earned during the week are valued at the respective

operator's premium unit rate and paid to him as premium earnings. When an index is below 60, the number of minutes difference between the index and 60 is multiplied by the "Hours On" and the result entered as "Units Below" in the "Premium or Units Below" column. Since the operator is guaranteed his hourly base rate, the "Units Below" represent excess cost and are not deducted from "Premium Units" earned on other days of the week.

Except for the "Daily Net" and "% On," the summary of the shift operation shown at the bottom of the daily column is obtained by adding the corresponding entries in the individual postings. The "Daily Net" is the average number of standard time units produced per "Hour On," that is, per hour of work on standards for the shift involved. It is obtained by dividing the "Total Units" for the shift by the "Hours On," and, as will be explained later, is indicative of the average rate of production achieved by the shift as a whole. The "% On" is the ratio of the "Hours On" to the "Total Hours," and tells the extent to which the work available for application of time standards is being studied and kept on standards. Further reference to standard posting sheet figures will be limited to the accomplishment index, net index, and "% On."

An accomplishment index between sixty and eighty is considered normal. Of course, the higher the index, the more effectively the man's time is being used. Referring again to the five "elements of utilization," whenever all of these conditions are satisfactory, a favorable index should result. If a deficiency exists in one or more of these elements, output is affected, and the accomplishment index is correspondingly reduced. The day-to-day relationship of the indexes produced by a given worker is as indicative as the relationship of any one index to the expected normal. To explain further:

1. A consistently low accomplishment index, such as Monday—60, Tuesday—58, Wednesday—63, Thursday—59, and Friday—61 may indicate that—
   a. The employee is not qualified for the job.
   b. He may be in poor health and subject to excessive fatigue.
   c. He may have lost interest and become indifferent toward his work.

d. The work may not be properly organized.

e. He may not have been given complete and proper instructions.

If an employee's indexes are consistently low over a period of several days or weeks, he will very probably become unhappy, will lose interest, and may decide he is not in the right organization and leave his job to seek work elsewhere.

2. A rising accomplishment index such as Monday—50, Tuesday—53, Wednesday—57, Thursday—60, and Friday—65 will indicate that there is improvement in the skill and organization of the work involved, and that new employees are being given proper instructions and follow-up training, and are making progress.

3. A declining index, such as 70, 68, 64, and 60 is most likely to result from some condition affecting the morale of the individual. It would appear that he is losing interest and has become discouraged. Under certain conditions, the use of defective materials or machine could cause such a decline.

4. A fluctuating index, such as 80, 60, 75, 62, etc., will probably result from—

   a. Conditions which may cause scrap.

   b. Health; an individual working at a reduced rate of accomplishment on some days due to nonconfining illness or worry over personal problems.

   c. Poor planning in work schedule, resulting in an excessive volume of work to be processed on one day with a low volume of work available on the following day. It is apparent that one does not apply himself as effectively when there is little work ahead of him as he does when there is plenty of work ahead of him.

5. A steady high index ranging fromm 70 to 80 will indicate that the worker is qualified for the job he is on, that he has been given proper instruction, and that the causes for scrap are being controlled. Consistent indexes within this

range indicate effective utilization of the man effort involved.

All of the foregoing assumes that all standard values are accurately and equitably determined. Any carelessness in establishing the standard values will be reflected in the resulting accomplishment indexes, probably by widely fluctuating indexes whenever the worker is assigned a different part or operation to perform.

Importance of Posting Sheet to Management and Worker

The workman is interested in these postings because they reflect his accomplishment in bonus earning and, to some extent, his qualifications for advancement to a higher rated job. Also, he takes pride in earning a high index for his fellow workers to view and will endeavor to eliminate, or at least call to the attention of his foreman, any conditions which retard his progress.

The foreman, supervisor, and plant superintendent review these postings to locate where their efforts are needed to accomplish the most effective utilization of the available manpower.

The personnel department maintains a card record of each employee's weekly average accomplishment index and uses this in settling grievances, in handling personnel problems, and in explaining why a certain individual may or may not qualify for upgrading to a higher rated job. It sometimes becomes necessary for them to refer to the standards posting sheets for detail information regarding the indexes produced by a certain individual, or group of individuals.

Time does not permit the plant manager to review the detail postings. A chart record is maintained for him showing the "daily net" and the "% On." From this record he is able to determine, at least in part, the effectiveness of the supervision in the various departments. While the normal "Daily Net" will vary from one department to another, a consistently low, or radically changing, "Daily Net" will attract the plant manager's attention, and he will request information on the cause. Likewise, the "% On" reflects the extent to which the work available for standards application is being studied and kept "on standards." A low "% On" may mean the foreman is not calling for time studies when jobs are being processed which have not been studied previously, or it may

mean a lack of cooperation between the foreman and the standards department. When the plant manager follows these ratings from day to day and requests information regarding low or widely fluctuating ratings, it goes without saying that the superintendent, supervisor, and foreman are going to watch them closely and will endeavor to maintain favorable ratings.

Considering these factors, the standards posting sheet is an important report on the effectiveness with which the available manpower is being utilized.

Analysis of the Performance Report

As previously mentioned, the performance report points out efficiencies and deficiencies by department and type of expense. The items "% On" and the "Net Index" are shown at the heading of this report. These are the same ratings as appear on the standards posting sheet for the respective departments, except they are ratings for the entire month's operations. Assuming other factors, such as basic wage rates, etc., to be the same, a change in either of these figures will inversely affect the actual cost per 100 output units.

Entering directly into the analysis of the expense accounts, as they reflect manpower utilization, we find that any conditions which affect the rate of output of productive labor units will be reflected in the actual dollars per 100 units for Account 1, Productive Labor; Account 9, Process Allowance; and Account 10, Below Standards. The title of Account 1 is self-explanatory. Account 9, Process Allowance, is used to accumulate the cost of units allowed workmen for conditions beyond their control, and the lower their rate of production, the greater the allowance made. Account 10, Below Standards, represents the cost of paying a guaranteed base rate to men whose production was below the minimum standard requirements.

Only certain of the elements of utilization will appear in the remaining labor accounts. The effect of having the right man on the job will appear to some extent in Account 2, Reoperation; Account 4, Bad Fits; and Account 7, Lost Time. A man not qualified for the work he is doing is almost certain to make more than the average number of errors or mistakes. This will mean reoperation

or bad fits allowances, or, if he makes a mistake involving machine damage, it is almost certain to result in lost time.

Health and morale conditions may be expected to have much the same effect as having the right man on the job; if health and morale are good, errors will be less frequent.

The element of organization, including flow of materials and parts and production planning, is probably reflected in more accounts than any other single factor. It is reflected to some extent in Account 2, Reoperation, but it is probably the main contributing factor to Account 3, Setup; Account 5, Cleanup; Account 6, Job Credit; Account 7, Lost Time; and Account 13, Indirect Labor.

An example which came to my attention will illustrate the effect of organization and planning on Account 3, Setup. A press operator spent four hours making a press setup and was just ready to start production when it was decided another part was needed more urgently, and he was requested to tear out the setup he had just finished and make another. The second setup was completed just before the end of the shift, and the operator did not get to produce a single part that day. Needless to say, in addition to the setup expense incurred, the operator went home disgusted.

The effect of organization will show in Account 5, Cleanup, to the extent job change cleanups are required, and to the extent that lost time waiting for parts or machine repair may appear in this account. Men are sometimes put to work doing cleanup to gain some benefit from the time during which they would otherwise be idle.

Account 6, Job Credit, results from a job change allowance, and the more frequently an operator is required to change jobs, the greater will be his job credit. Organizing to keep job changes at a minimum will, of course, control job credit expense.

Planning and organizing so that materials and parts are on hand when the employee is ready to start a job, maintaining machines and operating equipment in the proper state of repair, etc., will do much to keep Account 7, Lost Time, at a minimum. Failure to plan and organize production properly will most certainly result in excessive lost time for the operator.

An example will best illustrate the effect of organization on Account 13, Indirect Labor. The materials with which a group of operators were working were located on the opposite side of the

building some forty or fifty feet away from the men who used them. A workman, reporting his time as indirect labor, was moving these materials from their storage location to the location where they were used. After some study, the foreman found that by making a slight revision in the working arrangement, the materials could be stored on the same side of the room where they were used, and the indirect labor eliminated.

The result of effective instruction and training will appear most noticeably in Account 2, Reoperation and Account 7, Lost Time. Again, an example will best illustrate. A setup man made a machine setup and ran three pieces which when tested were found satisfactory. Without any instructions, the machine was turned over to the operator to proceed with the job. He ran 397 pieces to complete the job, and the entire 397 pieces were rejected and subject to reoperation. While the operator had previously operated the machine, he was not acquainted with certain conditions involved in using this particular setup. A few minutes of instruction would have saved several hours of reoperation time.

Another incident will illustrate the application to Account 7, Lost Time. An operator was taken to a machine with which he was entirely unfamiliar and was given instructions in the proper method to start the machine and to perform the operation, but he was not informed how to stop the machine. When he finished the operation and desired to stop the machine, he tried one lever after another until the machine finally jammed. The repair cost no doubt was much greater than was the lost time the operator had while waiting for the machine to be repaired.

The existence of conditions causing scrap will appear in Account 2, Reoperation. In our plant it is possible to reoperate and salvage a majority of rejected parts, and thus, conditions causing scrap are reflected through the cost of reoperating.

To this point, no reference has been made to Account 11, Supervision. The supervisor, superintendent, and plant manager are interested in the most effective use of their supervising manpower, and therefore these reports are useful in pointing out to them, through the cost reflected in Account 11, when there has been sufficient change to warrant dividing a department, bringing in an assistant foreman or combining two departments. It is true that supervision cannot be expected to vary directly with production,

but when there are radical changes in the volume of output units, and, therefore, the actual cost of supervision per 100 units of production, the attention of the supervisor, superintendent, and plant manager is drawn to this item, and they can decide what the proper move shall be.

Thus, the performance report gives direction in locating manpower utilization efficiencies and deficiencies. Of course, it will not show the exact condition which prevails, but it does point out the department and type of expense in which they exist and brief investigation will uncover the specific conditions.

Conclusion

One of the important factors in the minds of the executive officers of a company in the evaluation of their department heads and supervisors is the effectiveness with which those department heads and supervisors utilize the manpower made available to them. For those of us who are connected with cost work, there are many opportunities to furnish data to department heads which will enable them to utilize their manpower more fully. The demand for full utilization of manpower is still before us. It did not pass with the signing of a surrender ending warfare. We, on the cost end of the business, have a real opportunity to make the data we collect on labor cost and usage a vital tool for everyone in our respective organizations, from the worker to the executive, to use in gaining the most accomplishment from the effort expended.

Correction

As a result of a typographical error on page 670 of the *Bulletin* for April 1, the formula for the calculation of the labor price variance was incorrectly stated. The formula should have read:

Actual hours x (actual rate minus standard rate) = labor price variance.

OUR OPEN FORUM

The Cost Accountant's Role in Labor Relations

Editor, N. A. C. A. Bulletin:

Newspaper headlines continue to emphasize the importance of labor relations as one of the problems our nation must struggle with during the transition period. The usual pattern of events opens with unreasonable demands on the part of labor followed by the statements of management that the payment of any such demands to labor will merely hasten the day when the company will have paid out its entire surplus accumulated during past years of profitable operation. An impartial arbiter may be called in from outside the company to make a survey and recommend a settlement fair to both parties. Valuable time is lost while hearings are held, figures are collected, comparisons are made, and operating statistics are studied before a decision is reached.

The industrial accountant is in a position to act as an impartial arbiter in many of these labor disputes. His work over a period of years has brought him into personal contact with many of the plant employees and operating personnel. When time studies are made, material standards and variable budgets are set up, or cost estimates are made, opportunities are presented for cementing favorable relationships between workers and the plant accountant. Payday brings the usual number of questions and conferences. The accepted practice of helping employees to prepare their income tax returns strengthens the relationship between the worker and the accountant.

When a dispute arises between the worker and management, it would appear logical to call in the plant accountant as an arbiter. If both parties are sincere in their desire to reach a settlement that is fair to both sides, the plant accountant is in a logical position to fill this role. He is familiar with the background of the dispute. He is competent to compile statistics and secure comparisons from sources outside the company if this is necessary. If he has done his job well in the past, he should have the confidence of both parties to the dispute. His role in the operation of the business puts him "in the middle" as much as any other individual in the organization.

I am wondering if there have been any instances where the plant accountant has acted as arbiter in such disputes. If there have been none, why is it that he has been overlooked when such an opportunity as this has been presented to raise the opinion that industry and the public may have of the role of the industrial accountant?

Norman E. Horan,
Providence Chapter.

Primer for the Age of Plenty

Editor, N. A. C. A. Bulletin:

The cost accountant along with the accounting system could be a guide in what seems to be the era of approaching fact-finding boards appointed by the President and other officials including governors and mayors of our various states and cities. Of course, the point must be what are the facts to be used for, and who is to interpret them? There is no question but that the men appointed to the existing fact-finding boards or commissions are able lawyers, judges, or college presidents. What will these men expect to find that is not already in the record?

Certainly the Securities Exchange Commission, the Federal Trade Commission, the Bureau of Internal Revenue, the various state reports, and the audit reports of public accountants submitted to the stockholders already disclose sufficient data, and along with the OPA forms these boards could spend considerable time musing over these facts, but what will they see? Only past performances, and what are these good for? They can be used only for standards of comparison. Who can predict how many automobiles or washing machines or bicycles or baby carriages or gadgets will be made and sold in the period ahead? Who can predict what the overhead will be and what the unforeseeable expenses will be, or what new materials or new competition will bring? Who can predict the obsolete machinery, and plant sites, and the scarcity of experienced workers?

America's destiny in the world of tomorrow seems inevitable, yet how can we pay top wages and maintain top living standards and expect to export our goods when the other countries of the world pay low wages, have low production costs, and low standards of living?

Certainly the men in the country best able to discuss these problems are the cost accountants, and it would not be amiss to have the problems of cost accounting brought out so that the public will not think that all one has to do is put a lot of figures on paper or in a calculating machine, and then the answer comes out. Nor do we want the public to think that cost accounting is some mystic science that only a few men understand.

Let the cost accountants take the leadership in bringing out the problems, opportunities, and responsibilities of cost accounting as they affect the production of various kinds of capital and consumer goods as well as everyday living costs.

Philip A. Feiner,
Providence Chapter.

Profit Sharing

Editor, N. A. C. A. Bulletin:

The article on profit sharing contributed by Donald R. Thompson in the December 15, 1945, issue of the *N. A. C. A. Bulletin* is particularly appropriate in these times of widespread labor unrest and industrial strife. It

may well be that profit-sharing plans will come to have wide acceptance in the future because they tend to answer the clamor of wage employees for greater security, higher remuneration, and a larger voice in the conduct of company affairs.

Mr. Thompson has furnished us with an excellent resumé of the plan employed by his company. However, he himself warns that "no one plan is universally applicable, but must be tailored to fit the local conditions." In this connection, it is noted that Mr. Thompson's company issues capital stock at par value to distribute the major portion of the profits. This practice is probably satisfactory for a small company whose stock is closely held and does not appear on the Exchange. But in cases where the company's stock is listed on the Exchange, it would be better practice to issue profit-sharing stock at market value rather than par value. Otherwise, when the market value exceeds the par value, the profit sharers will receive preferential treatment as opposed to actual capital-furnishing stockholders. In practice, the profit shares would probably sell their stock to realize the profit available and thus defeat one of the purposes of issuing stock, namely, to engender a sense of proprietorship in the minds of employees. On the other hand, when market value is less than par value, employees will have the feeling that they are being "shortchanged" in receiving payment in overvalued stock. This again, would undo the whole purpose of the plan by striking at its equity and integrity. Above all, the employees must believe the plan to be fair. Also, it is conceivable that a point would eventually be reached where profits would be insufficient to maintain payment of "normal dividend" on capital stock. This would result in reducing the return to the regular, capital-furnishing stockholders from what it would have been had stock not been issued to employees. Such a condition is, of course, unjustified and inequitable.

However, the plan outlined is on the whole, an excellent one, and the *Bulletin* is to be commended for the inclusion of an article on this timely subject.

ROBERT W. BITZ,
Birmingham Chapter.

Editor, N. A. C. A. Bulletin:

The article by Donald R. Thompson, appearing in the December 15, 1945, issue of the *Bulletin*, entitled "Profit Sharing Is Good Business," seems to be quite closely connected with the basic domestic political issues so widely debated today.

From the standpoint of accounting, it means mainly that certain elements of labor cost like bonuses, gifts, etc., would properly appear in the profit distribution section of the operating statement. It might be really a step towards solving many of the present ills of our economic life. However, as accountants we may be of service to management in individual cases as to what might be considered a "fair profit" and what labor would regard as a "fair share."

Basically, capital will always demand the following deductions before profits to be shared could be computed, namely:

1. Interest on capital investment, including risk factors like obsolescence, etc., not covered by regular insurance.
2. Compensation for management work on the part of investors.
3. Reserves adequate to cover future losses.
4. Accumulation of funds for normal expansion.

In many cases it may prove, that a profit-sharing plan based on such principles does not vary to any considerable extent from amounts granted to labor as bonuses, etc., and might prove to be the golden bridge between management and labor, thus creating the desired atmosphere of mutual understanding.

It is not much work on the part of accountants to prepare statements based on such principles and discuss their possibilities with management. It may also prove a factor in bringing about the acceptance by all parties of the philosophy that it is better to be a partner in a good business than to be a sole owner of a bad one.

Leslie Aczel,
Los Angeles Chapter.

Inventory Taking and the Accountant

Editor, N. A. C. A. Bulletin:

In replying to Mr. Tyner's most interesting comment on my inventory article (December 1, 1945), I might say it is difficult to give the entire perspective in a limited paper on a specific technique. Perhaps I am guilty of taking the engineer's viewpoint. It is done intentionally as I meant to deal objectively with the activity of inventory taking itself and what its requisites might be, and not its place in the management organization. In this way it is placed as a unit in the organizational structure according to company practice. The most logical person to head up physical inventory would be the chief storekeeper. Storekeeping (records and physical) can be found under production; accounting and purchasing according to company practice. I would hesitate to open an age-old discussion between accountants and production men on this point, therefore make no recommendations.

It has been my experience that putting accounting personnel in charge of crews would handicap both the accountants and the crews in the following ways:

1. Actually assigning accounting personnel as part of a crew would destroy the accountant's most valuable function, that of check and audit. This itself is a highly-developed technique.
2. Lack of knowledge by the accounting department of the physical stock itself and its exact location would retard progress. Rarely does the accounting personnel get the opportunity to observe the

flow of work in process, materials, and finished goods, and also to identify them physically.

3. In a large inventory I have never found enough accounting personnel with stock experience to assign as an integral part of a crew.

I feel that those people handling the stock every day become the best type of inventory crew, and the accounting department's function should be one of an independent check, both on the floor and in the control accounts.

I would hesitate to take any inventory without complete advanced planning. The article mentions the use of an inventory manual, which of course would be as detailed as is necessary. Actual advance contact for the inventory personnel is necessary for reviewing instructions, answering questions, and, above all, finding out if each is prepared for his part. Written procedures can never take the place of personal instructions and follow-up; that is a weakness of many installations today.

The number of counters and tag writers, I should have explained, is flexible and should be suited to fit the case: one counter and one tag writer or two counters and one tag writer; it can, of course, be varied. Space is alloted on Exhibit 2 in the article for the counters' and tag writers' initials, as "Count" and "Writer." That should be sufficient for any reference.

The article gives effect to arrangement of materials, etc., in the "Notice of Physical Inventory," steps 2, 3, and 4, shown as Exhibit 3. As explained on page 286, this is given out one week in advance. Exhibit 6 also gives effect to this type of preparation on a Gantt chart, progress being noted thereon as preparations are completed. Progress information is asked for in the above-mentioned "Notice of Physical Inventory."

The article does not deal with a continuous inventory of certain classes of stock the year around. That is adapted according to company practice. In my limited experience I have encountered no such great difficulties in inaccuracies as Mr. Tyner mentions. Why should there be? There is ample opportunity to count, tag, and check the inventory as it is at a standstill. On the contrary this method is far more accurate than inventory taking while goods are moving. The date of taking is contingent on company policy, and I feel it is fully qualified in the last sentence of the first paragraph in the article.

It should be understood that procedures of this type should be modified and tailor-made to fit the particular industry. Mr. Tyner's comments have provided some good stimulus, and I am glad to see interest in such an important phase of management.

W. B. Atchison, Jr.,
Newark Chapter.

COST CURRENTS

Wartime Expansion of Facilities—The March issue of *Domestic Commerce*, published by the U. S. Department of Commerce, quotes some interesting data to show the magnitude of industrial expansion in the United States because of the war. In the five-year period following the enactment of the National Defense Act in June of 1940, the country witnessed the greatest short-term expansion of manufacturing facilities and military installations any nation has yet achieved. Including expenditures for industrial and nonindustrial services, mining, and agriculture, the United States spent approximately 76 billions for new facilities. Whereas during 1939, 57 billions of manufactured product were produced, in 1944 the production included 93 billions in war goods and at the same time supported a civilian economy functioning at higher than 1929 levels.

Ohio State's Eighth Annual Institute on Accounting—Preliminary announcement has been received from Ohio State University concerning its eighth annual institute on accounting to be held in Columbus on May 17 and 18, 1946. Several prominent N. A. C. A. members are on the program, including Mr. Frank Klein our national president.

Request for Annual Reports—The published annual reports of companies are quite useful to N. A. C. A. headquarters staff in studying new developments and trends in accounting. Members whose companies publish statements are invited to add N. A. C. A. to their companies' mailing lists.

Treasury Restricts Price Relief Based on Salary Increases—Salary increases for employees earning more than $7,500 a year will not be approvable in applications for price relief unless specific authorization for such rises is given by the Treasury Department. The Department's instructions issued by the Commissioner of Internal Revenue are as follows:

> Section 308 of the supplementary Wage and Salary Regulations issued by the Director of Economic Stabilization on March 8, 1946, provides, in part, as follows:
>
> *Issuance of General Pattern and Other Orders*
>
> A. The appropriate wage or salary stabilization agency shall have authority by regulation or general order to designate particular industries, or particular industries or related industries within a particular local labor market area, with respect to which it finds that a general pattern of wage or salary adjustments has been established, within the meaning of Section 303 (increases consistent with industry or local area pattern), or that a specified wage or salary level is necessary to eliminate

a gross inequity between wage rates or salaries in related industries or in related plants in the same industry or locality, within the meaning of Section 304 (increases to correct gross inequities), and to provide that any wage or salary increase conforming to such regulation or general order shall be deemed to be approved.

C. The appropriate wage or salary stabilization agency may, with the approval of the Economic Stabilization Director, give advance approval by regulation or general order to other classes of wage or salary increases.

In accordance with Section 308 (C) and in order to correct intra-company inequities occasioned by the granting of wage or salary increases under the terms of a regulation or general order issued by the National Wage Stabilization Board under Section 308 (A), increases in salaries, within the jurisdiction of the Commissioner of Internal Revenue, will be deemed approved, without the necessity of filing applications therefor to the extent that:

1. The increase in the salary of any individual employee is not in excess of the dollars and cents increase under such regulation or general order of an equal amount of wages or salary, or, if there be no equal amount of wages or salary, the increase is not in excess of the dollars and cents increase of the next lower wages or salary in which an increase is permissible under such regulation or general order; provided, however, that any increase hereunder shall be reduced by the amount of any general salary increase made by the employer since August 17, 1945.
2. The increase is not granted to an employee whose salary is in excess of $7,500.00 per annum, and
3. The increase in the salary of any individual employee is not effective prior to the effective date of such regulation or general order.

Increases made under this general approval may be applied to salary rate schedules to the extent that the minimums, maximums, and control points are increased in the same dollar amounts as is provided for in individual salary rates under the terms of this general approval.

An employer who seeks an adjustment in the price ceiling for his product or products based upon a salary increase deemed approved hereunder, shall indicate to the Office of Price Administration in any price relief application the nature of and the basis for the increase made pursuant to this general approval.

University of Michigan Technical Papers Published—The Bureau of Business Research of the University of Michigan has recently published the technical papers presented at the Twentieth Annual Michigan Accounting Conference held at Ann Arbor in November, 1945. The publication

is number 17 of the series, Michigan Business Papers, and includes the following papers:

The Tax Adjustment Act of 1945 and Accelerated Amortization of Emergency Facilities, by Alexander S. Currie, C. P. A., Price, Waterhouse & Co.

The Changing Relationship Between Manufacturing and Accounting, by John Airey, President, King-Seeley Corporation, Ann Arbor.

Trends in Accounting, by William W. Werntz, Chief Accountant, Securities and Exchange Commission.

Inventory Pricing, by Maurice H. Stans, C. P. A., Partner, Alexander Grant & Co., Chicago.

Current Problems and Developments in Accounting Procedures, by Cyril Talbot, C. P. A., Partner, Barrow, Wade, Guthrie & Co., Chicago.

Copies may be obtained, price $1.00, by writing to the University of Michigan Press, 311 Maynard Street, Ann Arbor, Michigan.

ASSOCIATION NEWS

Clinton Bennett Appointed Research Chairman

President Frank Klein has announced the appointment of Clinton W. Bennett as Chairman of the Association's Committee on Research. A Partner of Cooley & Marvin of Boston, Mr. Bennett is well known for his many contributions to the technical activities of the Association. The author of a number of articles published in the *N. A. C. A. Bulletin*, and a frequent speaker at chapter, regional, and national meetings, Mr. Bennett served as a member of the Technical Program Committee for the Boston Conference in 1943, was elected to the National Board in that year, and has served on the Board as Director in charge of Education and Chapters. Mr. Bennett succeeds Professor Thomas H. Sanders who served as Chairman of the Committee during its formative first six months. Professor Sanders has withdrawn from the chairmanship because of the pressure of other duties, but continues as a member of the Committee.

At its last meeting the Committee on Research authorized the early publication in the *N. A. C. A. Bulletin* of a research paper on "The Uses and Classification of Costs," and the initiation of two research studies in the field of cost control.

Piedmont Chapter Chartered

At its meeting on March 29 the National Board approved an application for a new chapter centering around Greensboro, North Carolina, to be known as the Piedmont Chapter. The new chapter, organized by a Committee headed by Charles E. Baxter, Treasurer of the Carter Fabrics Corp., as Chairman, and Ralph Jaeger, Controller of Mock, Judson, Voehringer Co., as Secretary, has a charter membership of 59, and brings to 84 the number of N. A. C. A. chapters.

Presentation of the charter for the new Piedmont Chapter will take place at an organization meeting at Greensboro on April 22, at which time chapter officers will be elected. Vice President William J. Carter will make the chapter presentation. The technical address for the evening will be made by Clinton W. Bennett, National Director in charge of Chapters and Chairman of the Committee on Research.

Twenty-Seventh International Cost Conference
Waldorf-Astoria Hotel – New York City
June 17, 18, and 19, 1946

Technical Program

Monday Morning, June 17

Chairman, Horace G. Crockett, McKinsey & Co.

Influence of Volume on Costs and Prices
Helping the Sales Executive

Monday Afternoon, June 17

Chairman, Stuart D. MacLaren, Heywood-Wakefield Co.

Theme: Increasing the Industrial Accountant's Value

Program for Improving Performance
Training People for the Job
Making the Figures Talk

Tuesday Morning, June 18

Chairman, Edward J. Hanley, Allegheny-Ludlum Steel Corp.

Theme: Putting Cost Accounting to Work

For Cost Control
For Cost Reduction

Tuesday Afternoon, June 18

Chairman, William H. Franklin, Caterpillar Tractor Co.

Theme: Putting Cost Accounting to Work

For Profit Determination and Inventory Valuation
To Answer the $64 Questions

Wednesday Morning, June 19

Chairman, James J. Hastings, James J. Hastings & Co.

Long-Term Profit Planning
Explaining Profits to Employees